Applicant filed a response to the Non-Final Action of September 7, 2007 on December 14, 2007.

Claims 10, 14-44, 48 are cancelled. Claims 1, 2, 4, 11, 45-47 are amended.

Claims 1-9, 11-13, 45-47 are under consideration.

Withdrawn Rejection

35 USC § 112, 1st parag. Enablement

Applicant's arguments, see pages 6-11 of Applicant's response, filed December 14, 2007, with respect to the rejection of claims 1-9, 11-13, 45-47 have been fully considered and are persuasive.

With regard to the site of expression of recombinant human HBM protein or mouse LRP5 protein having a glycine 170 to valine substitution in the transgenic mouse being in any tissue in the mouse, Applicant indicates that claims 1, 4, 46 have been amended such that the expression is in bone cells (Applicant's response, pages 7-8). This is found persuasive and the rejection as it applies to this issue is withdrawn.

With regard to the scope of murine bone-specific promoters (Applicant's response, page 8-9), the Examiner has reconsidered the rejection and withdraws the rejection as an additional search of the art teaches that murine bone-specific promoters were known in the art.

With regard to the rejection of the claims as it encompassed the use of a mouse LRP5 protein having a glycine 170 to valine substitution (Applicant's response, pages 9-10), the Examiner has reconsidered the rejection and withdraws the rejection. The glycine 170 to valine substitution in mouse LRP5 is predicted to function similar to that of the human HBM protein.

With regard to the use of the word, “modulation,” Applicant indicates that the claims have been amended to recite “increased” (Applicant’s response, page 10).

With regard to the issue of episomal expression, Applicant has amended the claims such that the nucleic acid is stably integrated in the transgenic mouse (Applicant's response, page 10-11, see also amendment to claims).

With regard to the claims being readable as encompassing grafted cells and xenotransplantation (Applicant’s response, page 11), Applicant's amendments to the claims overcome this rejection and the rejection is withdrawn. Applicant's claim amendments of the nucleic acid construct being stably integrated and that the construct is expressed in bone overcomes the claims being readable as to encompassing cartilage comprising a nucleic acid plasmid construct comprises a nucleic acid sequence that encodes human HBM or mouse LRP having a glycine 170 to valine substitution, wherein the cartilage is implanted into a mouse.

The rejection of claims 1-9, 11-13, 45-47 has been withdrawn.

An examiner’s amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Dr. Mercedes Meyer on March 25, 2007.

The application has been amended as follows:

1. In claim 1, line 4, the phrase, "SEQ ID NO. 4" has been replaced with the phrase, "a human HBM protein".

2. In claim 9, line 2, the phrase, "a human HBM protein" has been replaced with "SEQ ID NO: 4".

3. In claim 46, line 2, the phrase, "murine or viral" has been replaced with "viral or murine".

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joanne Hama, Ph.D. whose telephone number is 571-272-2911. The examiner can normally be reached Monday through Thursday and alternate Fridays from 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Paras, can be reached on 571-272-4517. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

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/Joanne Hama, Ph.D./
Examiner, Art Unit 1632